



CALS TEST NETWORK

# AFCTN Test Report 93-066

AFCTB-ID  
93-026



## Technical Publication Transfer

Using:



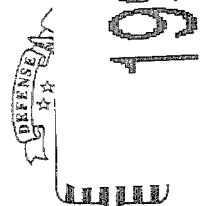
Northrop Corporation's Data



MIL-D-28000A (IGES)  
MIL-M-28001A (SGML)  
MIL-R-28002A (Raster)  
MIL-D-28003 (CGM)



Quick Short Test Report



26 March 1993

Prepared for  
Electronic Systems Center

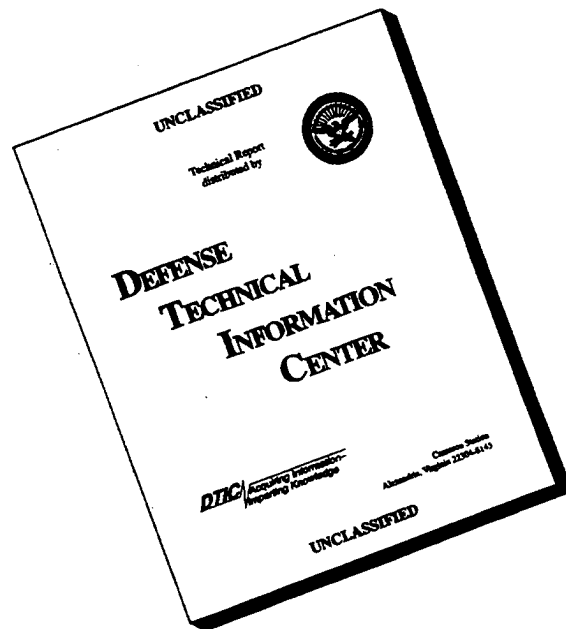
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AFCTN Test Report  
93-066

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**Quick Short Test Report**

**26 March 1993**

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## 1. Introduction

### 1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange, and demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal test are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and to respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

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## 1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Northrop Corporation's interpretation and use of the CALS standards in transferring technical publications data. Northrop used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.



## 2. Test Parameters

Test Plan: AFCTB 93-026

Date of  
Evaluation: 26 March 1993

Evaluators: George Elwood  
Air Force CALS Test Bed  
Det 2 HQ ESC/ENCP  
4027 Colonel Glenn Hwy  
Suite 300  
Dayton OH 45431-1672

Data  
Originator: John Kent  
Northrop Corporation  
B-2 Division M/S L591/GK  
8900 East Washington Blvd  
Pico Rivera CA 90660  
(310) 948-0624

Data  
Description: Technical Manual Test  
3 Document Declaration files  
3 Document Type Definitions (DTDs)  
4 Initial Graphics Exchange Specification  
(IGES) files  
3 Text files  
2 Raster files  
6 Computer Graphics Metafile (CGM) files

Data  
Source System:

IGES

**HARDWARE**

Unknown

**SOFTWARE**

Unknown

---

Text/Standard Generalized Markup Language (SGML)

HARDWARE

Unknown

SOFTWARE

Unknown

Raster

HARDWARE

Unknown

SOFTWARE

Unknown

CGM

HARDWARE

Unknown

SOFTWARE

Unknown

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN Tapetool v1.2.8 UNIX

MIL-D-28000 (IGES)

Sun SparcStation 2

ArborText iges2draw

IGES Data Analysis

(IDA) Parser/Verifier v92

IDA IGESView v3.05

MIL-M-28001 (SGML)

Cheetah Gold 486

Datalogics ParserStation v3.36

Exoterica XGMLNormalizer v1.2e3.2

McAfee & McAdam Sema Mark-it v2.3

**MIL-R-28002 (Raster)**

SUN SparcStation 2

ArborText g42tiff

AFCTN validg4

AFCTN calstb.475

IDA IGESView v3.0

Island Graphics IslandPaint v3.0

**MIL-D-28003 (CGM)**

SUN SparcStation 2

ArborText cgm2draw

Island Graphics IslandDraw v3.0

Cheetah Gold 486

Advance Technology Center

(ATC) MetaView R 1.12

ATC MetaCheck R 2.05

Software Publishing Corporation

(SPC) Harvard Graphics v3.05

Inset Systems HiJaak v1.0 Windows

Micrografx Designer v3.1

**Standards**

**Tested:**

MIL-STD-1840A

MIL-D-28000A

MIL-M-28001A

MIL-R-28002A

MIL-D-28003

### 3. 1840A Analysis

#### 3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a box in accordance with ASTM D 3951. The exterior of the box was not marked with the magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3. When the commercial packing slip was removed, the magnetic warning was found.

The tape was enclosed in a barrier bag as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the box was a packing list showing all files recorded on the tape.

#### 3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

##### 3.2.1 Tape Formats

The tape was run through the AFCTN *Tapetool* v1.2.8 utility. No errors were encountered while evaluating the contents of the tape labels.

The tape was run through TI's version of *Tapetool* with no reported errors.

The tape was read using XSoft's *CAPS read1840A* without a reported error.

### 3.2.2 Declaration and Header Fields

No error was reported in the Document Declaration file or data file headers.

This portion of the tape meets the CALS MIL-STD-1840A requirements.

## 4. IGES Analysis

The tape contained four IGES files. These files were evaluated using IDA's *Parser/Verifier* for CALS Class I. This utility reported that these files meet the CALS MIL-D-28000A specification. A few basic IGES errors were noted. The logs for this procedure is located in the Appendix to this report.

The AFCTB has several tools for viewing IGES files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The files were converted using ArborText's *iges2draw* utility. All files converted without a reported error. When the resulting files were read into Island Graphics' *Island Draw*, file D002Q004 and Q005 did not display correctly. These images were off screen to the left. The remaining files were handled without a problem.

The files were read into IDA's *IGESView* without a reported problem. All files displayed and printed without a noted problem.

The files were read into ITI's *IGESWorks* without a reported problem. All files displayed and printed without a noted error.

The IGES files meet the CALS MIL-D-28000A, Class I specification.

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## 5. SGML Analysis

The tape contained three DTDs and three Text files. The DTD's were noted as being the same with the exception of graphic calls. All of the graphic references were inserted into one file which was used for all operations. For error logs see QSTR 93-025.

The AFCTB has several parser available for evaluating submitted DTD and TEXT files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report. Changes to DTD or Text files required by each system are not documented in the report.

The Text and DTD files from the tape were evaluated using Datalogics' ParseStation. They had reported warnings.

The Text and DTD files from this document were tested using the Exoterica *XGMLNormalizer* parser. No errors were reported by this program.

The Text and DTD files from these documents were evaluated using a new parser from Exoterica. This program reported several warnings. These were the same entities reported by Datalogics parser.

The Text and DTD files from the tape were evaluated using McAfee & McAdam' *Sema Mark-it* parser. No errors were reported by this program.

The Text and DTD files from the tape were evaluated using the Public Domain *sgmls* parser. No errors were reported from this program.

The files meet the CALS MIL-M-28001A specification.

## 6. Raster Analysis

The tape contained one type I and one type II Raster files. The AFCTB currently has no capability to read type II files. This file was sent to the AFCTN Raster expert for evaluation.

The type I Raster file was evaluated using the AFCTN *validg4* utility which reported the file as valid. The file was read into the AFCTN *calstb.475* viewer with no problems.

The AFCTB has several tools for viewing Raster files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The file was read into IDA's *IGESView* with no reported errors. The file was displayed and printed.

The file was read into Inset Systems *HiJaak for Windows* without a reported error.

The type I Raster file meets the CALS MIL-R-28002A specification.

## 7. CGM Analysis

This tape contained six CGM files. The files were evaluated at the AFCTB and by the AFCTN CGM expert at LLNL. Three of the files (1Q006, 1Q007, 1Q008) were evaluated in QSTR 93-025 and are not addressed here.

The files were evaluated using ATC's *MetaCheck* with CALS options. This utility reported that the files meet the CALS MIL-D-28003 specification.

The files were evaluated using the AFCTN beta *validcgm* utility. This program reported some errors in all files.

The AFCTB has several tools for viewing CGM files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The files were viewed on screen using ATC's *MetaView*. The version available in the AFCTB is not the most current and had problems displaying the font correctly. Errors were generated by the two files which had text in them.

The files were converted using ArborText's *cgm2draw* utility with no reported errors. The resulting files were read into Island Graphics' *IslandDraw*, displayed and printed. With the exception of some font problems and an extra line in files C104 and C105, the images appeared to be complete. The ArborText utility strips the color from the files, so the images display in black and white.

The files were imported directly into Island Graphics' *IslandDraw* with no reported errors. Problems were noted with font and some lines in file C104. File C105 had severe problems with all text and graphics being placed in the lower left corner. The images displayed in color.

When the files were read using Inset Systems' *HiJaak for Windows*, only C104 could be read. The remaining files caused a general protection error.

When the *Micrografx Designer* was used to import the files, nothing was displayed.

The files were reported as meeting the CALS MIL-D-28003 specification.



## 8. Conclusions and Recommendations

In summary, the MIL-STD-1840A tape from Northrop Corporation was correct. No errors were reported in tape or CALS headers.

The IGES files meet the CALS MIL-D-28000A specification.

The SGML files and DTD meet the CALS MIL-M-28001A specification.

The Type I Raster file meets the CALS MIL-R-28002A specification.

The Type II Raster file was not evaluated.

The CGM files meet the CALS MIL-D-28003 specification.

The tape and the files evaluated meet the CALS MIL-STD-1840A requirements.

## 9. Appendix A - Tapetool Report Logs

### 9.1 Tape Catalog

Air Force CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes  
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Mar 26 09:24:13 1993

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool8/Set076

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D002	Document Declaration	D/00260	02048/000001	Extracted
D003	Document Declaration	D/00260	02048/000001	Extracted
D001T001	Text	D/00260	02048/000001	Extracted
D001G002	DTD	D/00260	02048/000034	Extracted
D001H003	Output Specification	D/00260	02048/000001	Extracted
D001C004	CGM	F/00080	00800/000004	Extracted

<<<< PART OF LOG REMOVED HERE >>>>

D002T001	Text	D/00260	02048/000001	Extracted
D002G002	DTD	D/00260	02048/000034	Extracted
D002H003	Output Specification	D/00260	02048/000001	Extracted
D002Q004	IGES	F/00080	02000/000016	Extracted
D002Q005	IGES	F/00080	02000/000499	Extracted
D002Q006	IGES	F/00080	02000/000025	Extracted
D002Q007	IGES	F/00080	02000/000047	Extracted
D003T001	Text	D/00260	02048/000001	Extracted
D003G002	DTD	D/00260	02048/000034	Extracted
D003H003	Output Specification	D/00260	02048/000001	Extracted
D003R004	Raster	F/00128	02048/000016	Extracted
D003R005	Raster	F/00128	02048/000008	Extracted

Catalog Process terminated normally.

## 9.2 Tape Evaluation Log

Air Force CALS Test Network Tape Evaluation - Version 1.2; Release Numb  
Standards referenced:

ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes  
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Mar 26 09:23:32 1993

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1ITDS01

CONTROLLER

Label Identifier: VOL1

Volume Identifier: ITDS01

Volume Accessibility:

Owner Identifier:

Label Standard Version: 4

HDR1D001

ITDS0100010001000100 93073 93073 000000 CONTROLLE

Label Identifier: HDR1

File Identifier: D001

File Set Identifier: ITDS01

File Section Number: 0001

File Sequence Number: 0001

Generation Number: 0001

Generation Version Number: 00

Creation Date: 93073

Expiration Date: 93073

File Accessibility:

Block Count: 000000

Implementation Identifier: CONTROLLER

HDR2D0204800260

00

Label Identifier: HDR2

Recording Format: D

Block Length: 02048

Record Length: 00260

Offset Length: 00

\*\*\*\*\* Tape Mark \*\*\*\*\*

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 1.

\*\*\*\*\* Tape Mark \*\*\*\*\*

<<<< PART OF LOG REMOVED HERE >>>>

\*\*\*\*\* Tape Mark \*\*\*\*\*

HDR1D003R005                    ITDS0100010024000100 93073 93073 000000    CONTROLLE

Label Identifier: HDR1  
File Identifier: D003R005  
File Set Identifier: ITDS01  
File Section Number: 0001  
File Sequence Number: 0024  
Generation Number: 0001  
Generation Version Number: 00  
Creation Date: 93073  
Expiration Date: 93073  
File Accessibility:  
Block Count: 000000  
Implementation Identifier:    CONTROLLER

HDR2F0204800128

00

Label Identifier: HDR2  
Recording Format: F  
Block Length: 02048  
Record Length: 00128  
Offset Length: 00

\*\*\*\*\* Tape Mark \*\*\*\*\*

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 8.

\*\*\*\*\* Tape Mark \*\*\*\*\*

EOF1D003R005                    ITDS0100010024000100 93073 93073 000008    CONTROLLE

Label Identifier: EOF1

---

File Identifier: D003R005  
File Set Identifier: ITDS01  
File Section Number: 0001  
File Sequence Number: 0024  
Generation Number: 0001  
Generation Version Number: 00  
Creation Date: 93073  
Expiration Date: 93073  
File Accessibility:  
Block Count: 000008  
Implementation Identifier: CONTROLLER

EOF2FC0204800128

00

Label Identifier: EOF2  
Recording Format: F  
Block Length: 02048  
Record Length: 00128  
Offset Length: 00

\*\*\*\*\* Tape Mark \*\*\*\*\*

\*\*\*\*\* Tape Mark \*\*\*\*\*

##### End of Volume ITDS01 #####

##### End Of Tape File Set #####

Deallocating /dev/rmt0...

Tape Import Process terminated with 0 error(s), 0 warning(s),  
and 0 note(s).

---

### 9.3 Tape File Set Validation Log

Air Force CALS Test Network File Set Evaluation - Version 1.2; Release  
8

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Informati

Fri Mar 26 09:24:14 1993

MIL-STD-1840A File Set Evaluation Log

File Set: Set076

Found file: D001

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Di

srcdocid: CALS\_CGM\_TEST1

srcrelid: NONE

chglvl: ORIGINAL

dteis: 19930126

dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (

dstdocid: STPRO25.6

dstrelid: NONE

dtetrn: 19930314

dlvacc: NONE

filcnt: T1, H1, G1, C6

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: JOB GUIDE

docttl: graphics test

Found file: D001T001

Extracting Text Header Records...

Evaluating Text Header Records...

srcdocid: CALS\_CGM\_TEST1

dstdocid: STPRO25.6

txtfilid: W

doccls: UNCLASSIFIED

notes: NONE

Saving Text Header File: D001T001\_HDR

Saving Text Data File: D001T001\_TXT

<<<<< PART OF LOG REMOVED HERE >>>>>

Evaluating numbering scheme...  
No errors were encountered during numbering scheme evaluation.  
Numbering scheme evaluation complete.

Checking file count...  
No errors were encountered during file count verification.  
File Count verification complete.

No errors were encountered in Document D001.

Found file: D002  
Extracting Document Declaration Header Records...  
Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Di  
srcdocid: CALS\_IGES\_TEST1  
srcrelid: NONE  
chglvl: ORIGINAL  
dteisu: 19930126  
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (  
dstdocid: STPRO25.8  
dstrelid: NONE  
dtetrn: 19930314  
dlvacc: NONE  
filcnt: T1, H1, G1, Q4  
ttlcls: UNCLASSIFIED  
doccls: UNCLASSIFIED  
doctyp: JOB GUIDE  
docttl: graphics test

Found file: D002T001  
Extracting Text Header Records...  
Evaluating Text Header Records...

srcdocid: CALS\_IGES\_TEST1  
dstdocid: STPRO25.8  
txtfilid: W  
doccls: UNCLASSIFIED  
notes: NONE

Saving Text Header File: D002T001\_HDR  
Saving Text Data File: D002T001\_TXT

<<<<< PART OF LOG REMOVED HERE >>>>>

Evaluating numbering scheme...

---

---

No errors were encountered during numbering scheme evaluation.  
Numbering scheme evaluation complete.

Checking file count...  
No errors were encountered during file count verification.  
File Count verification complete.

No errors were encountered in Document D002.

Found file: D003  
Extracting Document Declaration Header Records...  
Evaluating Document Declaration Header Records...

srcsys: John P. Kent, ITDS Chief Engineer, Northrop Corporation, B-2 Di  
srcdocid: CALS\_RAS\_TEST1  
srcrelid: NONE  
chglvl: ORIGINAL  
dteisu: 19930126  
dstsys: Jeff Fisher, Integration Manager, USAF CALS Test Bed, HQ AFMC (  
dstdocid: STPRO25.10  
dstrelid: NONE  
dtetrn: 19930314  
dlvacc: NONE  
filcnt: T1, H1, G1, R2  
ttlcls: UNCLASSIFIED  
doccls: UNCLASSIFIED  
doctyp: JOB GUIDE  
docttl: graphics test

Found file: D003T001  
Extracting Text Header Records...  
Evaluating Text Header Records...

<<<< PART OF LOG REMOVED HERE >>>>

Evaluating numbering scheme...  
No errors were encountered during numbering scheme evaluation.  
Numbering scheme evaluation complete.

Checking file count...  
No errors were encountered during file count verification.  
File Count verification complete.

No errors were encountered in Document D003.  
No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

---



## 10. Appendix B - Detailed Raster Analysis

### 10.1 File D001R004

#### 10.1.1 Output g42tiff/IslandPaint

U.S. ARMY MATERIEL COMMAND U.S. ARMY MISSILE COMMAND REDSTONE ARSENAL, ALABAMA				PARTS LIST		PL 10677287 CODE IDENTIFICATION NO. 18876			
TITLE OSCILLATOR, VOLTAGE CONTROLLED-COMO-A3A13			USAMICOM ECP	63343	DATE 16 NOV 70	REV -	SHEET 3 OF		
FIND NO.	PART OR IDENTIFICATION NO.	DRAWING OR SPECIFICATION NO.	NOMENCLATURE	QUANTITY	PL	MI	EFFECTIVITY * FROM TO	ZONE*	NOTES OR REMARKS
	10181751-207	10181751	RESISTOR						
	10181751-208	10181751	RESISTOR						
	10181751-209	10181751	RESISTOR						
	10181751-210	10181751	RESISTOR						
	10181751-211	10181751	RESISTOR						
	10181751-212	10181751	RESISTOR						
	10181751-213	10181751	RESISTOR						
	10181751-214	10181751	RESISTOR						
	10181751-215	10181751	RESISTOR						
2	10181752-261	10181752	RESISTOR	1					
3	10181752-357	10181752	RESISTOR	1					
4	10181751-147	10181751	RESISTOR	2					
5	10180306-239	10180306	RESISTOR	2					
6	10181751-133	10181751	RESISTOR	1					
7	10181751-166	10181751	RESISTOR	1					
8	10180328-418	10180328	RESISTOR	1					
9	10181752-283	10181752	RESISTOR	1					
10	10181752-298	10181752	RESISTOR	1					
11	10181752-306	10181752	RESISTOR	1					
12	10181752-297	10181752	RESISTOR	1					
13	10181752-289	10181752	RESISTOR	1					
14	10181752-271	10181752	RESISTOR	1					
15	10181752-310	10181752	RESISTOR	1					
16	10181751-55	10181751	RESISTOR	1					1
	10181751-1	10181751	RESISTOR						
	10181751-2	10181751	RESISTOR						
	10181751-3	10181751	RESISTOR						
	10181751-4	10181751	RESISTOR						
	10181751-5	10181751	RESISTOR						
	10181751-6	10181751	RESISTOR						

## 10.1.2 Output IGESView

U.S. ARMY MATERIEL COMMAND U.S. ARMY MISSILE COMMAND REDSTONE ARSENAL, ALABAMA				PARTS LIST			PL 10677287 CODE IDENTIFICATION NO. 18876			
TITLE OSCILLATOR, VOLTAGE CONTROLLED-COMO-A3A13				USAMCOM EDP 63343		DATE 16 NOV 70 REV -		SHEET 3 OF		
PART NO.	PART OR IDENTIFICATION NO.	DRAWING OR SPECIFICATION NO.	NOMENCLATURE	QUANTITY	PL	MI	EFFECTIVITY -		ZONE	NOTES OR REMARKS
	10181751-207	10181751	RESISTOR				FROM	TO		
	10181751-208	10181751	RESISTOR							
	10181751-209	10181751	RESISTOR							
	10181751-210	10181751	RESISTOR							
	10181751-211	10181751	RESISTOR							
	10181751-212	10181751	RESISTOR							
	10181751-213	10181751	RESISTOR							
	10181751-214	10181751	RESISTOR							
	10181751-215	10181751	RESISTOR							
2	10181752-261	10181752	RESISTOR	1						
3	10181752-357	10181752	RESISTOR	1						
4	10181751-147	10181751	RESISTOR	2						
5	10180306-239	10180306	RESISTOR	2						
6	10181751-133	10181751	RESISTOR	1						
7	10181751-166	10181751	RESISTOR	1						
8	10180328-418	10180328	RESISTOR	1						
9	10181752-283	10181752	RESISTOR	1						
10	10181752-298	10181752	RESISTOR	1						
11	10181752-306	10181752	RESISTOR	1						
12	10181752-297	10181752	RESISTOR	1						
13	10181752-289	10181752	RESISTOR	1						
14	10181752-271	10181752	RESISTOR	1						
15	10181752-310	10181752	RESISTOR	1						
16	10181751-55	10181751	RESISTOR	1						1
	10181751-1	10181751	RESISTOR							
	10181751-2	10181751	RESISTOR							
	10181751-3	10181751	RESISTOR							
	10181751-4	10181751	RESISTOR							
	10181751-5	10181751	RESISTOR							
	10181751-6	10181751	RESISTOR							

---

## 11. Appendix C - Detailed CGM Analysis

### 11.1 File D001C004

#### 11.1.1 Parser Log MetaCheck

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 03/26/93 Time: 09:05:50

Metafile Examined : i:\9326\c104.cgm

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

===== Trace Report =====

Tracing not selected.

===== CGM Conformance Violation Report =====

No Errors Detected

===== CALS CGM Profile (MIL-D-28003) Report =====

No profile discrepancies detected.

===== Conformance Summary Report =====

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 03/26/93 Time: 09:05:52

Name of CGM under test: i:\9326\c104.cgm

Encoding : Binary

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

BEGIN METAFILE string : "AFCTN-01Id"

METAFILE DESCRIPTION : "AFCTN-01Id, 91-10-03, MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 158; string contains: "All Graphical  
Primitive Elements"

Conformance Summary : This file conforms to the CGM specification.  
This file meets the CALS CGM Profile (MIL-D-28003).

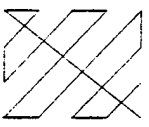
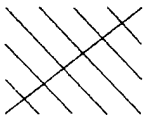
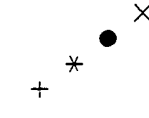
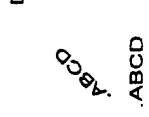

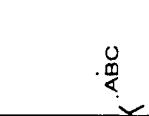




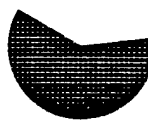





Summary of Testing Performed and Errors Found:

1 Pictures Tested  
213 Elements Tested  
2528 Octets Tested

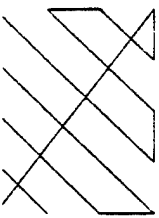
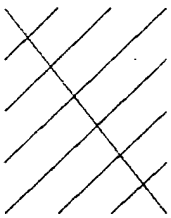
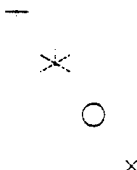
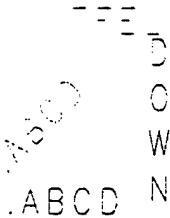
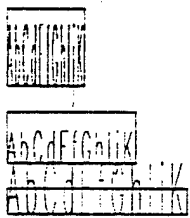

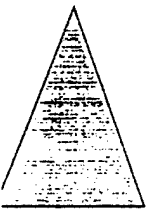
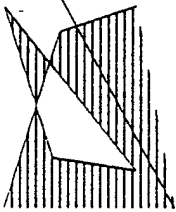

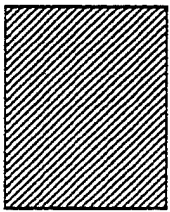
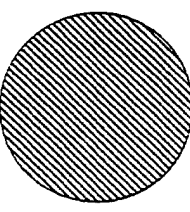
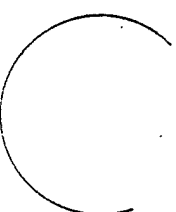
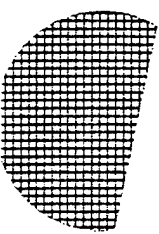
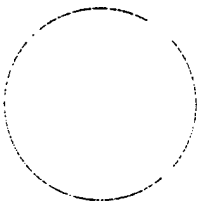
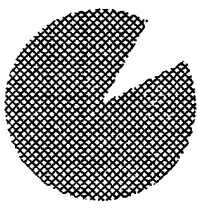
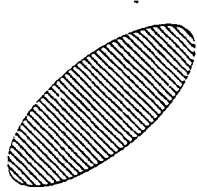

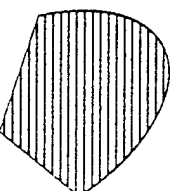
```
=====
|   No Errors Were Detected   |
=====
```

===== End of Conformance Report =====

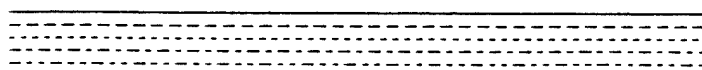
## 11.1.2 Output HiJaak for Windows

	(1) POLYLINE		(2) DISJOINT POLYLINE		(3) POLYMARKER		(4) TEXT		(5) RESTRICTED TEXT		(6) APPEND TEXT
	(7) POLYGON		(8) POLYGON SET		(9) CELL ARRAY		(11) RECTANGLE		(12) CIRCLE		(13) CIRCULAR ARC 3 POINT
	(14) CIRCULAR ARC 3 POINT CLOSE		(15) CIRCULAR ARC CENTRE CLOSE		(16) CIRCULAR ARC CENTRE CLOSE		(17) ELLIPSE		(18) ELLIPTICAL ARC		(19) ELLIPTICAL ARC CLOSE
CALS TEST NETWORK MIL-D-28003 Computer Graphics Metafile File: CTN-01id, Draft 91-10-03											

### 11.1.3 Output cgm2draw/IslandDraw

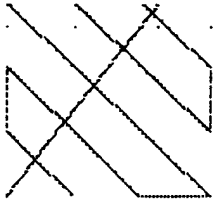
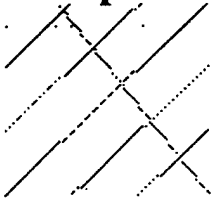
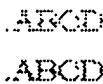
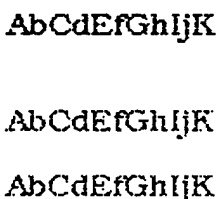
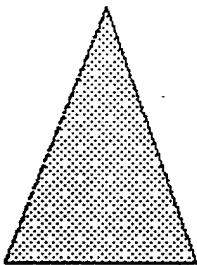
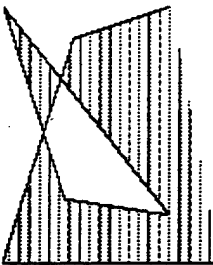
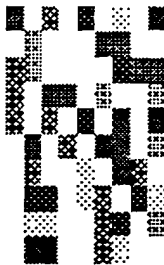
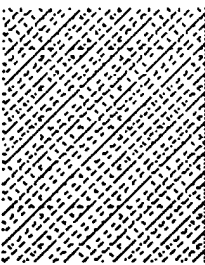
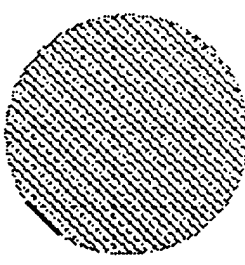
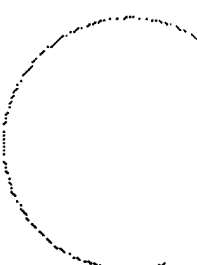
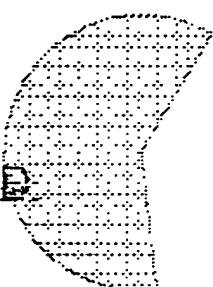
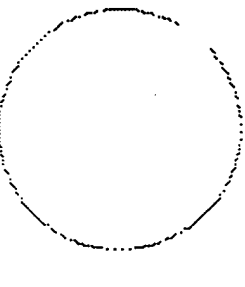
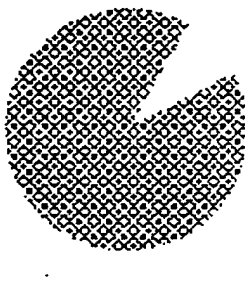
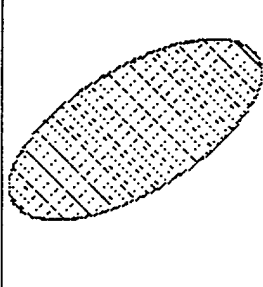

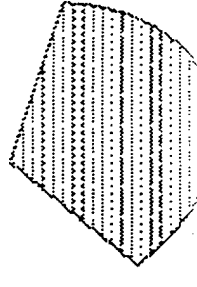
					
) POLYLINE	(2) DISJOINT POLYLINE	(3) POLYMARKER	(4) TEXT	(5) RESTRICTED TEXT	(6) APPEND TEXT
					
) POLYGON	(8) POLYGON SET	(9) CELL ARRAY	(11) RECTANGLE	(12) CIRCLE	(13) CIRCULAR ARC 3 POINT
					
4) CIRCULAR ARC 3 POINT CLOSE	(15) CIRCULAR ARC CENTRE	(16) CIRCULAR ARC CENTRE CLOSE	(17) ELLIPSE	(18) ELLIPTICAL ARC	(19) ELLIPTICAL ARC CLOSE

LINE TYPE

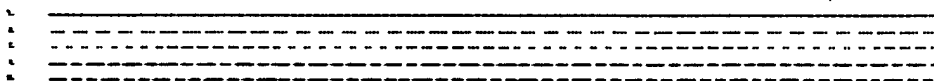


CALS TEST NETWORK  
MIL-D-28003  
Computer Graphics Metafile  
File: CTN-011d, Draft 91-10-03

### 11.1.4 Output IslandDraw

					
(1) POLYLINE	(2) DISJOINT POLYLINE	(3) POLYMARKER	(4) TEXT	(5) RESTRICTED TEXT	(6) APPEND TEXT
					
(7) POLYGON	(8) POLYGON SET	(9) CELL ARRAY	(11) RECTANGLE	(12) CIRCLE	(13) CIRCULAR ARC 3 POINT
					
(14) CIRCULAR ARC 3 POINT CLOSE	(15) CIRCULAR ARC CENTRE	(16) CIRCULAR ARC CENTRE CLOSE	(17) ELLIPSE	(18) ELLIPTICAL ARC	(19) ELLIPTICAL ARC CLOSE

LINE TYPE



CALS TEST NETWORK  
MIL-D-28003  
Computer Graphics Metafile  
File: CTN-01Id, Draft 91-10-03

---

## 11.2 File D001C005

### 11.2.1 Parser Log MetaCheck

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 03/26/93 Time: 09:06:02

Metafile Examined : i:\9326\c105.cgm

Pictures Examined : All  
Elements Examined : All  
Bytes Examined : All

===== Trace Report =====

Tracing not selected.

===== CGM Conformance Violation Report =====

No Errors Detected

===== CALS CGM Profile (MIL-D-28003) Report =====

No profile discrepancies detected.

===== Conformance Summary Report =====

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 03/26/93 Time: 09:06:05

Name of CGM under test: i:\9326\c105.cgm  
Encoding : Binary

Pictures Examined : All  
Elements Examined : All  
Bytes Examined : All

BEGIN METAFILE string : "AFCTN-01Rd"  
METAFILE DESCRIPTION : "AFCTN-01Rd, 91-10-03, MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 162; string contains: "All Graphical  
Primitive Elements"



Conformance Summary : This file conforms to the CGM specification.  
This file meets the CALS CGM Profile (MIL-D-28003).

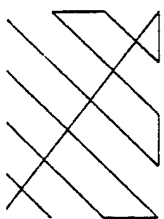
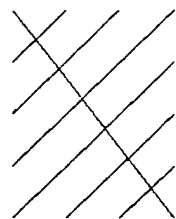
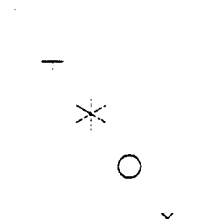

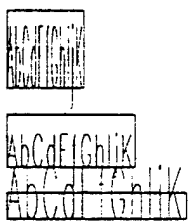
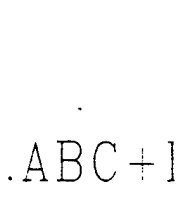
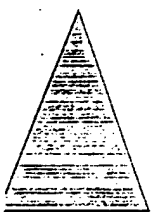
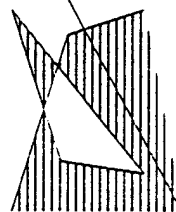
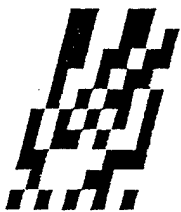
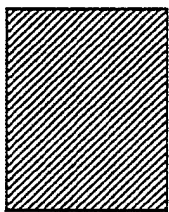
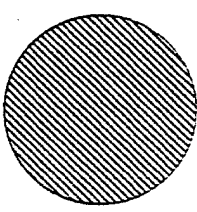
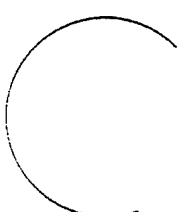
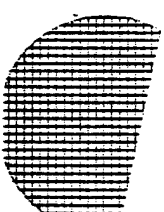
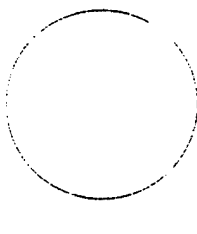
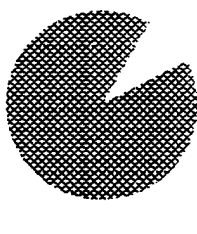
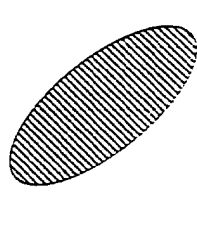
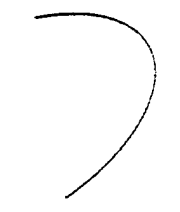
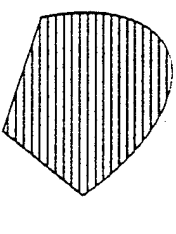
Summary of Testing Performed and Errors Found:

1 Pictures Tested  
213 Elements Tested  
3252 Octets Tested

```
=====
|   No Errors Were Detected   |
=====
```

===== End of Conformance Report =====

## 11.2.2 Output cgm2draw/IslandDraw

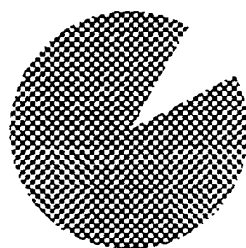
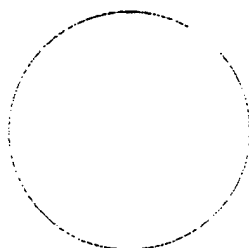
					
(1) POLYLINE	(2) DISJOINT POLYLINE	(3) POLYMARKER	(4) TEXT	(5) RESTRICTED TEXT	(6) APPEND TEXT
					
(7) POLYGON	(8) POLYGON SET	(9) CELL ARRAY	(10) RECTANGLE	(11) CIRCLE	(12) CIRCULAR ARC 3 PC
					
(13) CIRCULAR ARC 3 POINT CLOSE	(14) CIRCULAR ARC CENTRE	(15) CIRCULAR ARC CENTRE CLOSE	(16) ELLIPSE	(17) ELLIPTICAL ARC	(18) ELLIPTICAL ARC CLOSE
LINE TYPE				CALS TEST NETWORK MIL-D-28003 Computer Graphics Metafile File: CTN-01Rd, 91-10-03	

### 11.2.3 Output IslandDraw

~~ARC 3 POINT~~  
ARC 3 POINT

(8) POLYGON  
SET

(9) CELL  
ARRAY



~~ARC CLOSE~~  
ARC CLOSE  
CLOSE

(15) CIRCULAR  
ARC CENTRE

(16) CIRCULAR  
ARC CENTRE  
CLOSE

~~TEST NETWORK~~  
LINE TYPE  
28003

Graphics Metafile

91-10-03

~~TEST NETWORK~~

(2) POLYLINE

(3) POLYMARKER

---

## 11.3 File D001C009

### 11.3.1 Parser Log MetaCheck

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 03/26/93 Time: 09:06:15

Metafile Examined : i:\9326\c109.cgm

Pictures Examined : All  
Elements Examined : All  
Bytes Examined : All

===== Trace Report =====

Tracing not selected.

===== CGM Conformance Violation Report =====

No Errors Detected

===== CALS CGM Profile (MIL-D-28003) Report =====

No profile discrepancies detected.

===== Conformance Summary Report =====

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 03/26/93 Time: 09:06:17

Name of CGM under test: i:\9326\c109.cgm  
Encoding : Binary

Pictures Examined : All  
Elements Examined : All  
Bytes Examined : All

BEGIN METAFILE string : "text.cgm"  
METAFILE DESCRIPTION : "NORTHROP B2 ITDS GEF, MIL-D-28003/BASIC-1"

Picture 1 starts at octet offset 178; string contains: "Picture 1"

Conformance Summary : This file conforms to the CGM specification.

AFCTN Test Report  
93-066

AFCTB Test Report  
93-026

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This file meets the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested  
67 Elements Tested  
896 Octets Tested

=====  
| No Errors Were Detected |  
=====

===== End of Conformance Report =====

### 11.3.2 Output cgm2draw/IslandDraw

CENTER TEXT

RIGHT TEXT

ABCD  
EFG  
HIJK  
LMOP  
QRST  
UVW  
XYZ

BOLD 45

D  
O  
W  
N  
  
T  
E  
X  
T  
  
P  
U

TEXT .12

BOLD .15

S P A C I N G 2

EXPANSION FACTOR 1.5

TEXT COLOR RED

### 11.3.3 Output IslandDraw

RIGHT TEXT

ABCD

EFG

HIJK

LMOP

QRST

UVW

XYZ

DOWN TEXT

BOLD 45

TEXT .12

BOLD .15

SPACING 2

EXPANSION FACTOR 1.5

TEXT COLOR RED